Dec. 21, 1937. W. P. HAYNE 2,102,592

AIR HEATER

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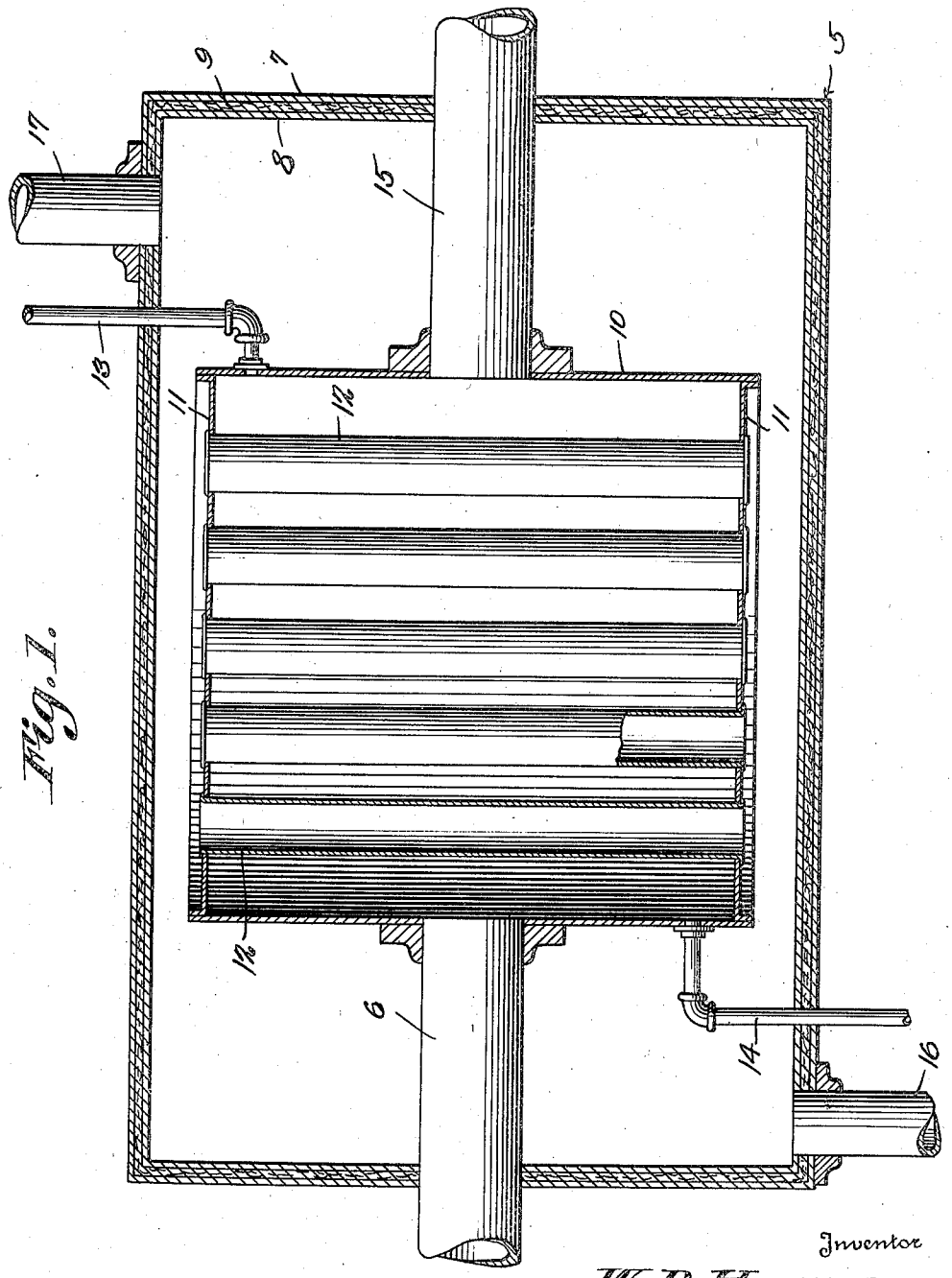


Fig. 1.

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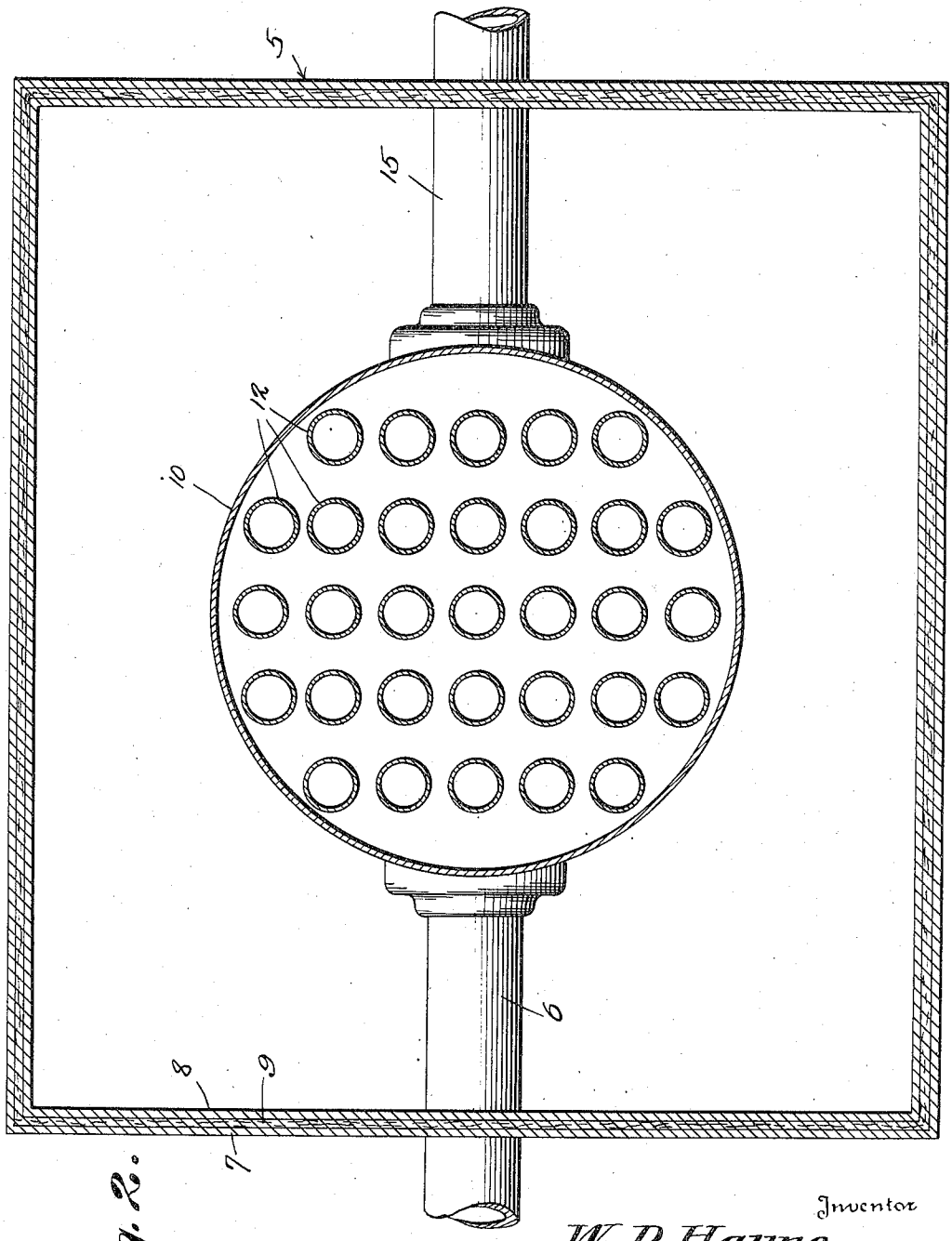


Fig. 2.

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AIR HEATER

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Application February 1, 1937, Serial No. 123,468

1 Claim. (Cl. 257—219)

This invention relates to a device designed for use in drying or conditioning seed cotton prior to its passage to the gin saws, the primary object of the invention being to dry or condition the seed cotton so that the seeds may be readily removed from the cotton, by the gin saws.

A further object of the invention is to provide a device of this character wherein the temperature of the heated air used to condition the seed cotton, may be accurately regulated to insure the proper conditioning of the material.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a longitudinal sectional view through a device constructed in accordance with the invention.

Figure 2 is a transverse sectional view through the device.

Referring to the drawings in detail, the device comprises a body portion indicated generally by the reference character 5, the body portion being built around the exhaust pipe 6, leading from an internal combustion engine.

The body portion or chamber 5, comprises an outer wall 7 and an inner wall 8, the walls 7 and 8 being insulated by means of the insulating material 9, disposed between the walls 7 and 8.

Mounted within the body portion or chamber 5, is a radiator indicated by the reference character 10, the radiator being preferably circular in formation.

The radiator includes upper and lower walls 11, which are formed with openings through which the tubes 12 extend, the tubes 12 having their ends open, establishing communication between the tubes and interior of the body portion or chamber 5, so that air may pass readily therethrough.

These tubes 12, are supported in horizontal spaced relation with respect to each other, so that the exhaust gases entering the radiator, through the exhaust pipe 6, may circulate freely around the tubes 12, to heat the air passing therethrough.

The reference character 13 designates a steam pipe which extends from a suitable source of steam supply, through the upper wall of the body portion or chamber 5, where it connects with the radiator 10, as clearly shown by Figure 1 of the drawings.

The reference character 14 designates a water outlet pipe, through which condensation in the radiator, may exhaust.

Under normal conditions, the heat from the exhaust gases passing through the pipe 6, will heat the tubes 12 to the end that air passing through the tubes will be heated. Should it be found that the heat from the exhaust gases, is too great, steam is supplied to the radiator to reduce the temperature. It will of course be understood that the exhaust gases passing through the radiator 10, are directed through the exhaust pipe 15, after they have accomplished the purpose of heating the tubes 12 of the radiator.

Air is directed to the body portion or chamber 5, through the pipe 16, the air being drawn from the body portion or chamber 5, through the outlet pipe 17, which is connected with a suction fan housing not shown. Pipes not shown, leading from the suction fan housing, will be provided to deliver the heated air to the place where it is required in the process of drying or conditioning seed cotton before it reaches the gin saws.

Having thus described the invention, what is claimed is:

An apparatus for supplying heated air in the conditioning of seed cotton, comprising a rectangular chamber, a radiator within the chamber, said radiator embodying a circular casing having closed ends, said circular casing being supported in spaced relation with the walls of the chamber, a plurality of vertical tubes supported within the casing and arranged in spaced relation with each other, said tubes having open ends whereby air entering the chamber may pass through the tubes, a pipe for directing air to the chamber, a pipe through which hot air passes from the chamber, a pipe extending through the chamber and having connection with the radiator and through which exhaust gases are directed to the casing heating the vertical tubes, a pipe extending into the circular casing through which steam is directed to the interior of the circular casing controlling the temperature of the tubes, and a pipe through which condensation within the casing may be exhausted from the casing.

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